

WHAT IS CLAIMED IS:

1. An air/fuel ratio gauge for monitoring an engine exhaust mixture of an engine having a plurality of oxygen sensors, the gauge comprising:

a gauge housing;

a gauge controller disposed within the gauge housing and being in electrical communication with the engine, the gauge controller being operative to receive a sensor voltage output signal from each of the plurality of oxygen sensors; and

at least two gauge displays, each gauge display being in electrical communication with the gauge controller and an associated oxygen sensor, each gauge display being operative to independently display sensor information representative of the associated oxygen sensor operation.

2. The gauge of Claim 1 wherein the gauge housing has at least two sensor terminals operative to communicate the sensor voltage output signals to the gauge controller.

3. The gauge of Claim 3 wherein each of the gauge displays are operative to display the associated sensor information independent of the other gauge display based upon

the sensor voltage output signal received from the associated sensor.

4. The gauge of Claim 1 wherein the sensor voltage output signal ranges from about 0 volt to about 1 volt.

5. The gauge of Claim 4 wherein the sensor voltage output signal in a range from about 0 volt to about 0.3 volt represents a substantially greater amount of air than fuel in the engine exhaust mixture.

6. The gauge of Claim 4 wherein the sensor voltage output signal in a range from about 0.301 volt to about 0.7 volt represents a substantially equal amount of air and fuel in the engine exhaust mixture.

7. The gauge of Claim 4 wherein the sensor voltage output signal in a range from about 0.701 volt to about 1.0 volt represents a substantially greater amount of fuel than air in the engine exhaust mixture.

8. The gauge of Claim 1 wherein the gauge displays include light emitting diodes.

9. The gauge of Claim 1 wherein the gauge controller includes at least one auto zeroing circuit operative to zero the gauge displays at zero levels.

10. The gauge of Claim 1 wherein the gauge controller includes at least one buffering circuit for attenuating

transient oscillation of the sensor information displayed by the gauge display.

11. An engine system for monitoring an engine exhaust mixture, the system comprising:

- an engine having a plurality of oxygen sensors; and
- an air/fuel ratio gauge, comprising:

- a gauge housing;

- a gauge controller disposed within the gauge housing and being in electrical communication with the engine, the gauge controller being operative to receive a sensor voltage output signal from each of the plurality of oxygen sensors; and

- at least two gauge displays, each gauge display being in electrical communication with the gauge controller and an associated oxygen sensor, each gauge display being operative to independently display sensor information representative of the associated oxygen sensor operation.

12. The system of Claim 11 wherein the gauge housing has at least two sensor terminals operative to communicate the sensor voltage output signals to the gauge controller.

13. The system of Claim 12 wherein each of the gauge displays are operative to display the associated sensor information independent of the other gauge display based upon

the sensor voltage output signal received from the associated sensor.

14. The system of Claim 11 wherein the sensor voltage output signal ranges from about 0 volt to about 1 volt.

15. The system of Claim 14 wherein the sensor voltage output signal in a range from about 0 volt to about 0.3 volt represents a substantially greater amount of air than fuel in the engine exhaust mixture.

16. The system of Claim 14 wherein the sensor voltage output signal in a range from about 0.301 volt to about 0.7 volt represents a substantially equal amount of air and fuel in the engine exhaust mixture.

17. The system of Claim 14 wherein the sensor voltage output signal in a range from about 0.701 volt to about 1.0 volt represents a substantially greater amount of fuel than air in the engine exhaust mixture.

18. The system of Claim 11 wherein the gauge displays include light emitting diodes.

19. The system of Claim 11 wherein the gauge controller includes at least one auto zeroing circuit operative to zero the gauge displays at zero levels.

20. The system of Claim 11 wherein the gauge controller includes at least one buffering circuit for attenuating

transient oscillation of the sensor information displayed by
the gauge display.